Quiz 7 Calculus 3 11/4/2009

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Evaluate $\int_C \mathbf{F} \cdot d\mathbf{r}$, where $\mathbf{F}(x, y) = \langle xy^2, 2y^3 \rangle$ and C is the first-quadrant portion of a circle with radius 3, centered at the origin and traversed counterclockwise.

2. Evaluate $\int_C \mathbf{G} \cdot d\mathbf{r}$, where $\mathbf{G}(x, y) = \langle y + 2xy, x + x^2 \rangle$ and C is a line segment from (–1,2) to (3,1).